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10/542,171	07/12/2005	Yoshikazu Tanaka	601560-19US (04P570US/P35	8282

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EXAMINER	
APICELLA, KARIE O	

ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptomail@panitchlaw.com

Office Action Summary

Application No.	10/542,171	**Applicant(s)**	TANAKA ET AL.
Examiner	Karie O'Neill Apicella	**Art Unit**	1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 July 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7-12-05*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species I in the reply filed on November 20, 2009, is acknowledged. Applicant's arguments are persuasive and the restriction requirement is withdrawn. Therefore, Claims 1-24 are pending in this office action.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d) or (f), which papers have been placed of record in the file.

Information Disclosure Statement

3. Information disclosure statement (IDS), submitted July 12, 2005, has been received and considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-9, 11-13 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Pratt et al. (US 2003/0194589 A1).

With regard to Claims 1 and 2, Pratt et al. discloses a fuel cell power source (100) comprising: a fuel cell system (130); a load value detecting means, called a control means (150), configured to detect a load value of a load device (160) of electric power which is generated by equipment supplied with the electric power from said fuel cell system (100); a load value storage means, called an information storage device (140), configured to store a history of the load value detected by said load value detecting means (150); and a load value predicting means within the control means (150) configured to predict a load value which is going to be generated based on the history of the load value and to store the predicted load value as load value data (paragraphs 0017-0019). Pratt et al. also discloses wherein a scheduled start-up time of said fuel cell system (130) is decided based on the load value data, wherein the load value is a power value of a power load (160) of the equipment supplied with the electric power from said fuel cell system (100), and the load value data is power value data. Pratt et al. discloses that when the control means (150) sets the operating point, it changes the operating voltage and current output of the fuel cell system (130) so that the fuel cells operate at the most efficient part of the current-voltage curve. The control means (150) can also vary the parameters of the fuel cell system (130) to match the power output of the fuel cell system (130) 60 the dynamic load characteristics of the load device (160) and the usage pattern of the device user (paragraphs 0022-0023).

With regard to Claim 3, Pratt et al. discloses a calculating means, called a measuring means (210), configured to calculate an amount of primary energy consumed to supply the electric power; wherein said calculating means, or measuring

means (210), calculates with a microprocessor circuit, the amount of primary energy, or the remaining capacity of the fuel cell power source (200), based on the power value data for a predetermined time period (paragraphs 0026-0028), for a case where said fuel cell system (130) supplies the electric power and for a case where said power system (100) supplies the electric power, and values calculated by said calculating means, or measuring mans (210), are compared and start time of the time period is decided as the scheduled start-up time when the value calculated for the case where said power system supplies the electric power is larger than the value calculated for the case where said fuel cell supplies the electric power (paragraph 0028). Pratt et al. discloses in paragraph [0033], “the fuel cell power source 300 is coupled to the load device 160, which operates using the power provided by the fuel cell power source 300. As the fuel cell power source 300 begins to operate, the measuring means 210 searches the information storage device 140 to verify the presence of data about the dynamic load patterns of the connected load device 160. The startup sequence also ensures that data about one or more device users load device usage pattern and the power characteristics of fuel cell system 130 are available in the information storage device 140. When data about the load pattern of the load device 160 is missing, the measuring means 210 queries the attached load device 160 for that information and stores it in the information storage device 140 for future use. In one embodiment, the measuring means 210 further queries the load device 160 for identification of the current device user of the load device 160. If the device user usage pattern or the power characteristics of the fuel cell system 130 is missing, default values for the

parameters associated with this data, stored in the information storage device 140 are used by the measuring means 210. In addition, the measuring means 210 starts recording the pattern of load device usage by the current device user and the power characteristics of the fuel cell system 130. Once sufficient information has been recorded, the values are stored in the information storage device 140 for future use. It will be appreciated by one of ordinary skill in the art that a plurality of device user usage patterns for a plurality of device users for one or more load devices can be stored in the information storage device 140 in accordance with the present invention".

With regard to Claim 4, Pratt et al. discloses wherein said calculating means, or measuring means (210), calculates the amount of the primary energy consumed to supply the electric power from said fuel cell, considering an amount of a primary energy consumed to start-up said fuel cell (paragraph 0034). Pratt et al. discloses that the measuring means (210) computes the net power loading requirements of the load device (160) "by combining and matching the dynamic load requirements of the load device 160 with the historic usage pattern of each device user. In addition, as part of the startup sequence, the measuring means 210 also queries the fuel storage container controller 120 to obtain the value of remaining fuel in the fuel storage container 110. Using information about the power characteristics of the fuel cell system130, the dynamic load requirements of the load device 160, the pattern of usage of the device user, and the remaining quantity of fuel in the fuel storage container 110, the measuring means 210 computes fuel gauging information such as power capacity remaining in the

fuel cell power source 300, the amount of time the load device 160 could be operated in different modes, the fuel consumption rate and the energy conversion efficiency".

With regard to Claim 5, Pratt et al. discloses wherein said calculating means, or measuring means (210), calculates the amount of the primary energy consumed to start-up said fuel cell system (130) (paragraph 0034), based on a temperature of said fuel cell system (130). An example of this is given in paragraph [0030] or Pratt et al. when it is discloses that fuel cell systems (100) operated in the mode where power is drawn more frequently with smaller temperature cycling will be more efficient and provide more operational time for the load device.

With regard to Claim 6, Pratt et al. discloses a fuel generator, including a fuel storage container (110) which serves as the fuel source and is configured to generate a fuel containing hydrogen from a material (paragraph 0016), wherein said calculating means, or measuring means (210) calculates the amount of the primary energy consumed to supply the electric power from said fuel cell system (130), considering an amount of a primary energy consumed to start-up said fuel cell (130) (paragraph 0034).

With regard to Claim 7, Pratt et al. discloses wherein said calculating means calculates the amount of the primary energy consumed to start-up said fuel cell system (130), based on a temperature of said fuel generator (110). Pratt et al. discloses that the control means (150) typically includes a computing means (170) such as a microprocessor that can perform arithmetic and logic operations and that can also communicate with other electrical elements. Pratt et al. discloses that the fuel cell system (130) is coupled to the fuel storage container (110), the control means (150) and

the load device (160) (paragraph 0016). The microprocessor is therefore capable of calculating the amount of the primary energy consumed to start-up said fuel cell system, based on a temperature of said fuel storage container.

With regard to Claim 8, Pratt et al. discloses an input means, called a computing means (170) such as a microprocessor, that can perform arithmetic and logic operations, is coupled to the load device (160), and by which the value to be calculated by said calculating means is selected from the primary energy of the load (paragraph 0016).

With regard to Claim 9, Pratt et al. discloses a display means, called a device user interface element (250) in the load device (160) or a user interface element (240) in the fuel cell power source (100) (paragraph 0029): wherein a difference in the amount of primary energy is calculated using the calculated values of said calculating means (210), for a case where said fuel cell supplies the electric power and for a case where said power system supplies the electric power, and said display means displays the difference. Pratt et al. discloses that the measuring means (210) computes the net power loading requirements of the load device (160) by combining and matching the dynamic load requirements of the load device 160 with the historic usage pattern of each device user (paragraph 0029).

With regard to Claim 11, Pratt et al. discloses wherein a scheduled start-up time, or initial operating point us updated or adjusted over time (paragraph 0028).

With regard to Claims 12 and 13, Pratt et al. discloses in Figures 2 and 3, a display means, called a device user interface element (250) in the load device (160) or

a user interface element (240) in the fuel cell power source (100) (paragraph 0029). This display means is fully capable of displaying the scheduled startup time and a history of past operations, as well as other parameters computed by the control means (150).

With regard to Claim 24, Pratt et al. discloses a control means (150) which sets the initial operating point for the fuel cell system (130) (paragraph 0028). This control means (150), therefore, contains an operation time setting means that sets the scheduled start-up time of said fuel cell.

6. Claims 1-4, 6, 8, 10, 14-16, 18, 20, and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamashita (JP 2002-190308).

With regard to Claim 1, Yamashita discloses a fuel cell system comprising: a fuel cell (200); a load value detecting means, called a power sensor (402), configured to detect a load value of a load of electric power or heat which is generated by equipment supplied with the electric power or the heat from said fuel cell system (200); a load value storage means, called a control section (600) made of inverters, CPU, etc., configured to store a history of the load value detected by said load value detecting means (402) (paragraph 0026); and a load value predicting means, also part of the control section (600), configured to predict a load value which is going to be generated based on the history of the load value, seen in the calculations given in paragraphs 0058-0081, and to store the predicted load value as load value data, wherein scheduled start-up time of said fuel cell is decided based on the load value data, or the On/Off

switch is switched based on the control signal from control section (600) (paragraph 0046).

With regard to Claim 2, Yamashita discloses wherein the load value is a power value of a power load of the equipment, household electric load (400), supplied with the electric power from said fuel cell system (200), and the load value data is power value data (paragraph 0051).

With regard to Claim 3, Yamashita discloses a calculating means, part of control section (600), that is capable of being configured to calculate a cost necessary to supply the electric power; wherein said calculating means, or control section (600), is capable of calculating the cost, based on the power value data for a predetermined time period, for a case where said fuel cell supplies the electric power and for a case where said power system supplies the electric power, and values calculated by said calculating means (600) are compared and start time of the time period is decided as the scheduled start-up time when the value calculated for the case where said power system supplies the electric power is larger than the value calculated for the case where said fuel cell supplies the electric power, so that the total cost may become advantageous (paragraphs 0050-0052).

With regard to Claim 4, Yamashita discloses wherein said calculating means, or control section (600), is capable of calculating the cost necessary to supply the electric power from said fuel cell (200), considering a cost necessary to start-up said fuel cell (200). This is seen in the calculations provided in paragraphs 0055-0079.

With regard to Claim 6, Yamashita discloses a fuel generator, or town gas which is generally natural gas mixed with nitrogen (paragraphs 0072, 0075), configured to generate a fuel containing hydrogen from a material, wherein said calculating means, or control section (600), calculates the cost necessary to supply the electric power from said fuel cell (200), considering an amount of a cost necessary to start-up said fuel cell (200). This is seen in the calculations provided in paragraphs 0055-0079.

With regard to Claim 8, Yamashita discloses an input means by which the value to be calculated by said calculating means, or control section (600), is selected from the cost (paragraph 0057).

With regard to Claim 10, Yamashita discloses a heat storage means, called a heat exchanger (502), configured to recover waste heat from said fuel cell (200) and to store the heat; and a heat supply means, called a hot-water-supply (500), configured to supply the heat stored in said heat storage means (502) to outside, wherein said calculating means, or control section (600), further calculates an amount of heat recovered by said heat storage means (502), and a cost necessary to supply the heat from said external heat supply means, or gas hot water supply device (504), based on the power value data for the time period, thereby calculating a cost for a case where said fuel cell (200) supplies the electric power and the heat and for a case where said power system from town gas or commercial gas, supplies the electric power and said external heat supply means (504) supplies the heat (paragraphs 0031-0033), and wherein values calculated by said calculating means, or control section (600), are compared and start time of the time period is decided as the scheduled start-up time

when the value calculated for the case where said power system and said external heat supply means supply the electric power and the heat, respectively, is larger than the value calculated for the case where said fuel cell supplies the electric power and the heat. These calculations can be seen in paragraphs 0080-0123.

With regard to Claim 14, Yamashita discloses a heat storage means, called a heat exchanger (502), configured to recover waste heat from said fuel cell (200) and to store the heat; a heat supply means, called a hot-water-supply (500), configured to supply the heat stored in said heat storage means to outside; and a stored heat amount detecting means, also part of the control section (600), configured to detect an amount of the heat stored in said heat storage means or hot-water-supply (500), wherein the load value is a calorie value (kcal) of a heat load of the equipment supplied with the heat from said fuel cell system (200), and the load value data is calorie value data, measured in kcal (paragraph 0088).

With regard to Claim 15, Yamashita discloses a calculating means, control section (600), configured to calculate a cost necessary to supply the heat and the electric power, wherein said calculating means calculates the cost based on the calorie value data (kcal) for a predetermined time period for a case where said fuel cell supplies the electric power and the heat and for a case where said power system and said external heat supply means supply the electric power and the heat, respectively, and wherein values calculated by said calculating means, control section (600), are compared and start time of the time period is decided as the scheduled start-up time when the value calculated for the case where said power system and said external heat

supply means supply the electric power and the heat, respectively, is larger than the value calculated for the case where said fuel cell supplies the heat and the electric power. These calculations can be seen in paragraphs 0080-0123.

With regard to Claim 16, Yamashita discloses wherein said calculating means, or control section (600), calculates the cost necessary to supply the electric power and the heat from said fuel cell (200), considering a cost necessary to start-up said fuel cell (200). The calculations can be seen in paragraphs 0080-0083.

With regard to Claim 18, Yamashita discloses a fuel generator configured to generate a fuel containing hydrogen from a material, or town gas which is generally natural gas mixed with nitrogen (paragraphs 0072, 0075), wherein said calculating means (600) calculates the amount of the cost necessary to supply the electric power and the heat from said fuel cell (200), considering a cost necessary to start-up said fuel cell. Calculations can be seen in paragraphs 0055-0079.

With regard to Claim 20, Yamashita discloses an input means by which the value to be calculated by said calculating means, or control section (600), is selected from the cost (paragraph 0057).

With regard to Claim 22, Yamashita discloses a heat storage means, called a heat exchanger (502), configured to recover waste heat from said fuel cell (200) and to store the heat; a heat supply means, called a hot-water-supply (500), configured to supply the heat stored in said heat storage means to outside; and a stored heat amount detecting means, also part of the control section (600), configured to detect an amount of the heat stored in said heat storage means or hot-water-supply (500), a selecting

means, also part of the control section (600), configured to select the load value from a calorie value of a heat load of the equipment supplied with the heat from said fuel cell system (200) or a power value of a power load (400) of the equipment supplied with the electric power from said fuel cell system (200), and to thereby select power value data or calorie value data as the load value data (paragraphs 0080-0100).

With regard to Claim 23, Yamashita discloses wherein said control section (600) includes a load value storage means wherein the load value storage means stores the load value such that the load value in a case where a user is at home and the load value in a case where the user is away from home are distinguished from each other (paragraph 0080), and wherein said selecting means is capable of determining the scheduled start-up time of said fuel cell (200) from determination based on the power value data in the case where the user is at home, determination based on the power value data in the case where the user is away from home, determination based on the calorie value data in the case where the user is at home, and determination based on the calorie value data in the case where the user is away from home (paragraphs 0080-0122).

With regard to Claim 24, Yamashita discloses an operation time setting means, also called switches A and B, capable of, as desired, setting the scheduled start-up time of said fuel cell (paragraph 0124).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 17, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita (JP 2002-190308), as applied to claims 1-4, 6, 8, 10, 14-16, 18, 20, and 22-24 above, and in further view of Pratt et al. (US 2003/0194589 A1).

Yamashita discloses the fuel cell system in paragraph 6 above, including a fuel cell stack, a fuel generator, a load, a controller capable of being configured to detect a load value, store load history and predict a load value, as well as a calculating means within the controller that is capable of calculating several functions. Yamashita does not specifically disclose wherein said calculating means calculates the amount of primary energy consumed to start up said fuel cell the amount of carbon dioxide generated at start-up of said fuel cell, or the cost necessary to start-up said fuel cell, based on a temperature of said fuel cell and wherein the same calculations are based on a temperature of said fuel generator.

Pratt et al. discloses a fuel cell power source (100) comprising: a fuel cell system (130); a load value detecting means, called a control means (150), configured to detect a load value of a load device (160) of electric power which is generated by equipment supplied with the electric power from said fuel cell system (100); a load value storage means, called an information storage device (140), configured to store a history of the load value detected by said load value detecting means (150); and a load value

predicting means within the control means (150) configured to predict a load value which is going to be generated based on the history of the load value and to store the predicted load value as load value data (paragraphs 0017-0019). Pratt et al. also discloses wherein a scheduled start-up time of said fuel cell system (130) is decided based on the load value data, wherein the load value is a power value of a power load (160) of the equipment supplied with the electric power from said fuel cell system (100), and the load value data is power value data. Pratt et al. discloses that when the control means (150) sets the operating point, it changes the operating voltage and current output of the fuel cell system (130) so that the fuel cells operate at the most efficient part of the current-voltage curve. The control means (150) can also vary the parameters of the fuel cell system (130) to match the power output of the fuel cell system (130) 60 the dynamic load characteristics of the load device (160) and the usage pattern of the device user (paragraphs 0022-0023). Pratt et al. discloses a calculating means, called a measuring means (210), capable of being configured to calculate an amount of primary energy consumed to supply the electric power; wherein said calculating means, or measuring means (210), calculates with a microprocessor circuit, the amount of primary energy, or the remaining capacity of the fuel cell power source (200), based on the power value data for a predetermined time period (paragraphs 0026-0028), for a case where said fuel cell system (130) supplies the electric power and for a case where said power system (100) supplies the electric power, and values calculated by said calculating means, or measuring mans (210), are compared and start time of the time period is decided as the scheduled start-up time

when the value calculated for the case where said power system supplies the electric power is larger than the value calculated for the case where said fuel cell supplies the electric power (paragraph 0028). Pratt et al. discloses in paragraph [0033], “the fuel cell power source 300 is coupled to the load device 160, which operates using the power provided by the fuel cell power source 300. As the fuel cell power source 300 begins to operate, the measuring means 210 searches the information storage device 140 to verify the presence of data about the dynamic load patterns of the connected load device 160. The startup sequence also ensures that data about one or more device users load device usage pattern and the power characteristics of fuel cell system 130 are available in the information storage device 140. When data about the load pattern of the load device 160 is missing, the measuring means 210 queries the attached load device 160 for that information and stores it in the information storage device 140 for future use. In one embodiment, the measuring means 210 further queries the load device 160 for identification of the current device user of the load device 160. If the device user usage pattern or the power characteristics of the fuel cell system 130 is missing, default values for the parameters associated with this data, stored in the information storage device 140 are used by the measuring means 210. In addition, the measuring means 210 starts recording the pattern of load device usage by the current device user and the power characteristics of the fuel cell system 130. Once sufficient information has been recorded, the values are stored in the information storage device 140 for future use. It will be appreciated by one of ordinary skill in the art that a plurality of device user usage patterns for a plurality of device users for one or more load

devices can be stored in the information storage device 140 in accordance with the present invention". Pratt et al. also discloses that the control means (150) includes a computing means (170), such as a microprocessor, that can perform arithmetic and logic operations and that can also communicate with other electrical elements. Pratt et al. discloses that the control means (150) is coupled to the fuel cell system (130), the fuel storage container (110), and the load device (160) (paragraph 0016). The microprocessor is therefore capable of calculating the amount of the primary energy consumed to start-up said fuel cell system, the amount of carbon dioxide generated at the start-up of said fuel cell, or the cost necessary to start-up said fuel cell, based on the power characteristics of the fuel cell system (130), which includes a temperature of said fuel cell or based on the temperature of said fuel generator (paragraph 0022). At the time of the invention it would have been obvious to one of ordinary skill in the art to use a calculation means to calculate the amount of primary energy consumed to start-up said fuel cell, the amount of carbon dioxide generated at the start-up of said fuel cell, or the cost necessary to start-up said fuel cell, based on a temperature of said fuel cell and based on a temperature of said fuel generator in Yamashita, because Pratt et al. teaches that the control means includes a computing means, such as a microprocessor, that can perform arithmetic and logic operations and that can also communicate with other electrical elements, and by controlling the temperature of the fuel cell and the fuel generator, the parameters of the fuel cell and the fuel generator will match the dynamic load characteristics of the load device so that the fuel cell power system will operate at the most efficient level (paragraphs 0022-0023).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill Apicella whose telephone number is (571)272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Karie O'Neill Apicella/
Examiner
Art Unit 1795

KOA